SANTA CRUZ BIOTECHNOLOGY, INC.

MAN2B2 siRNA (h): sc-89272

BACKGROUND

MAN2B2 (mannosidase, α, class 2B, member 2) is a 1,009 amino acid secreted protein that belongs to the glycosyl hydrolase 38 family. Expressed as multiple alternatively spliced isoforms, MAN2B2 uses zinc as a cofactor to catalyze the hydrolysis of terminal, non-reducing α-D-mannose residues in α-D-mannoside proteins. The gene encoding MAN2B2 maps to human chromosome 4p16.1, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Robinson, W.E., et al. 1987. Evidence that mannosyl residues are involved in human immunodeficiency virus type 1 (HIV-1) pathogenesis. AIDS Res. Hum. Retroviruses 3: 265-282.
2. Kozarsky, K., et al. 1989. Glycosylation and processing of the human immunodeficiency virus type 1 envelope protein. J. Acquir. Immune Defic. Syndr. 2: 163-169.
3. Hiramoto, S., et al. 1997. Stage-specific expression of a mouse homologue of the porcine 135kDa α-D-mannosidase (MAN2B2) in type A spermatogonia. Biochem. Biophys. Res. Commun. 241: 439-445.
4. Jin, Y.Z., et al. 1999. Purification and properties of major α-D-mannosidase in the luminal fluid of porcine epididymis. Biochim. Biophys. Acta 1432: 382-392.
5. Tascou, S., et al. 2000. Refinement of the expression pattern of a mouse homologue of the porcine 135 kDa α-D-mannosidase (MAN2B2). Biochem. Biophys. Res. Commun. 272: 951-952.
6. Land, A. and Braakman, I. 2001. Folding of the human immunodeficiency virus type 1 envelope glycoprotein in the endoplasmic reticulum. Biochimie 83: 783-790.

CHROMOSOMAL LOCATION

Genetic locus: MAN2B2 (human) mapping to 4p16.1.

PRODUCT

MAN2B2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAN2B2 shRNA Plasmid (h): sc-89272-SH and MAN2B2 shRNA (h) Lentiviral Particles: sc-89272-V as alternate gene silencing products.

For independent verification of MAN2B2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89272A, sc-89272B and sc-89272C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MAN2B2 siRNA (h) is recommended for the inhibition of MAN2B2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAN2B2 gene expression knockdown using RT-PCR Primer: MAN2B2 (h)-PR: sc-89272-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.